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AMSAT NEWS SERVICE
ANS-054

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

You can sign up for free e-mail delivery of the AMSAT News Service Bulletins via the ANS List; to join this list see:
http://www.amsat.org/mailman/listinfo/ans

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ANS-054 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 054.01
>From AMSAT HQ KENSINGTON, MD.
DATE 2020 Feb 23
To All RADIO AMATEURS
BID: $ANS-054.01

QARMAN and Phoenix CubeSats Deployed from ISS

The von Karman Institute in Belgium (VKI) reports the successful deployment of the QARMAN satellite from the International Space Station on Wednesday, 19 February. QARMAN is one of several cubesats that were scheduled for deployment this week.

Also, Arizona State University reports that its Phoenix CubeSat was successfully deployed from the ISS as scheduled at 9:35 UTC Wednesday. Roughly 30 minutes after deployment, its beacon was heard for the first time at an amateur radio ground station located in Indonesia.

VKI also reports successful reception and decoding of telemetry from

QARMAN. It is important to note that both of these satellites are using the same frequency, 437.35 MHz, for telemetry transmissions, and that they are in very similar orbits. Both satellites also follow the AX.25 protocol at 9600 baud, with GMSK modulation. It will take some trial and error before each spacecraft's TLEs can be confirmed.

Operators of these satellites are actively seeking observations from amateurs. Please report to:
https://community.libre.space/c/satellites-observations

ANS is awaiting reports regarding the other satellites that were scheduled for deployment on Wednesday, as listed below:

CubeSat	Downlink (MHz)	Uplink (MHz)	Scheduled Deployment Time (UTC)
RadSat-u	437.425	437.425	7:10
CryoCube	2261.00	2082.004	12:55
AztechSat-1	437.3	437.3	12:55
SOCRATES	914.7	914.7	14:30
Argus-02	437.29	437.29	16:00
HARP	468.0	450.0	16:00
SORTIE	468.0	450.0	17:40

[ANS thanks AMSAT-UK, VKI, and Arizona State for the above information]

AMSAT Files Comments Opposing Deletion of 3.4 GHz Band

AMSAT has filed comments on the Federal Communications Commission's Notice of Proposed Rulemaking which proposes to delete the 3.3 - 3.5 GHz (9 cm) amateur band, including the 3.40 - 3.41 GHz amateur satellite service allocation.

In the comments, AMSAT opposes the deletion of this allocation and emphasizes the necessity of adequate microwave spectrum for future amateur satellite projects, including AMSAT's GOLF program and the Lunar Gateway.

AMSAT further notes that the most desirable allocations for use as uplinks are the allocations between 2.4 and 5.67 GHz. These allocations total 80 MHz. The most desirable allocation for downlink use is the 10.45 - 10.50 GHz allocation, totaling 50 MHz. As many of the proposed uses include amateur television and high-speed data transmission with satellites in high earth orbit or lunar orbit, these allocations may quickly become inadequate. AMSAT also notes that the 2.4 and 5.67 GHz allocations are widely used for ISM and consumer devices, such as WiFi and Bluetooth-enabled devices. The 3.4 GHz allocation is shared between amateur use and other non-federal and federal licensees, but is free from the unpredictable interference of consumer devices.

While acknowledging that the 3.4 GHz amateur satellite service allocation is not currently used by any amateur satellites and that it is unsuitable for worldwide communication since it is not available in ITU Region 1, AMSAT identifies a number of potential future uses for the band as worldwide usage of the other available allocations increases. These potential uses include a future amateur satellite in geostationary orbit above the Americas.

In the comments, AMSAT also noted several non-amateur satellite uses of the broader 3.3 - 3.5 GHz amateur service allocation, including its wide use in mesh networking, EME communications, and contesting.

The full text of the comments as filed can be downloaded at
https://tinyurl.com/ANS-054-FCC

Interested parties may file reply comments on or before March 22, 2020 at https://www.fcc.gov/ecfs/ The proceeding is WT Docket No. 19-348.

[ANS thanks Paul Stoetzer, N8HM, Executive Vice President. for the above information]

NEMO-1 Buoy Report

AMSAT ARGENTINA launched the NEMO-1 buoy into the Atlantic sea on January 30th at noon, using the callsign LU7AA. It was transported 70 km east of Mar del Plata by the fisherman's ship 'Porteño', from Sandokan.

The buoy, which emits in WSPR mode at 14095.6 KHz and FM VHF in APRS mode, navigated drifting free for 12 days traveling about 1100 kilometers, until on February 11th it was sighted and taken out of the water by the tuna vessel 'Juan Pablo II'.

The captain of the ship, Rinaldi Yaco, considered that the buoy was sailing semi-sunk and decided to rescue it, informing Amsat Argentina of that event.

The NEMO-1 then traveled eight more days aboard the tuna vessel, continuing its mission of data capture and broadcasting, until on Feb-19 it arrived at the port of Mar del Plata, where colleagues from the Mar del Plata Radio Club picked it up and kept in custody.

A group of AMSAT-LU is traveling to recover NEMO-1. The buoy will be reconditioned and a new launch is planned. It will be tried to take it, on this occasion, to more than 200 km offshore, so that it will continue to navigate freely, reaffirming the commitment and contribution of radio amateurs to QRPp propagation research also helping navigation and the community.

AMSAT ARGENTINA especially thanks the Captains and crews of the 'Porteño', the 'Juan Pablo II' ships and the Mar del Plata RClub in the persons of its Secretary, Jose Luis Hermida (LU9DHJ) and Jorge Garelli (LU5EOR) for the help provided and to the more than 100 'travelers' in NEMO-1, who supported this project helping to carry it out. http://amsat.org.ar?f=ce

Adventure photos: http://amsat.org.ar?f=buoy

[ANS thanks LU7AA, AMSAT Argentina for the above information]

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The GNU Radio Conference celebrates and showcases the substantial and remarkable progress of the world's best open source digital signal processing framework for software-defined radios. In addition to presenting GNU Radio's theoretical and practical presence in academia, industry, the military, and among amateurs and hobbyists, GNU Radio Conference 2020 will have a very special focus: Speed, latency, delay, and timing!

Enjoy our racing theme throughout the conference, featured in our contests and a high-octane Thursday night dinner. Papers and presentations on theme will be recognized at the conference with an award.

But wait, there's more! We'll be co-located and coordinated with the TAPR Digital Communications Conference. It's the weekend immediately preceding GRCon20. Find out more at: https://tapr.org/?page_id=68

Registration and an online and mobile-friendly schedule will be posted at https://www.gnuradio.org/grcon/grcon20/

Developers and users from the GNU Radio Community are invited to present projects, presentations, papers, posters, and problems at GRCon20. Submit talks, demos, and code! Please share this Call widely. To submit your content for the conference, visit the dedicated conference submission site at: https://pretalx.gnuradio.org/grcon20/cfp

First round closes 17 April 2020. If accepted, your content will be immediately scheduled. Notifications go out 26 June 2020.

Final round closes 1 September 2019. Submissions received between 18 April 2020 and 1 September 2020 are accepted space permitting, and notifications will be sent out on a rolling basis.

Those with questions or need assistance with submitting then please write grcon(a)gnuradio.org

[ANS thanks Michelle Thompson, W5NYV, AMSAT Board Member, for the above information]

U.S. Naval Academy's PSAT3 Scheduled to Launch in Mid-March

The U. S. Naval Academy's PSAT3 payload is scheduled to launch in mid-March from the Pacific Spaceport Complex - Alaska in Kodiak, AK.

PSAT3 is functionally equivalent to NO-104 (PSAT2), but does not include PSK31 functionality. It carries a 145.825 MHz APRS digipeater and SSTV downlink capability.

PSAT3 will not be a free-flying satellite. It will remain attached to the upper stage of the launch vehicle. Consequently, the mission duration will be limited to a few months, when the rocket body will deorbit.

More information about PSAT3 can be found at http://aprs.org/psat3.html

[ANS thanks Bob Bruninga, WB4APR, and the IARU for the above information]

Changes to AMSAT-NA TLE Distribution

The following Amateur Radio satellite has been added to this weeks AMSAT TLE Distribution:
SwampSat-2 NORAD CAT ID 45115 (Deployed from Northrop Grumman NG-12 Cygnus 2-3-2020.)
(Thanks to Nico Janseen, PA0DLO, for satellite identification.)

Sadly, AO-85 (Fox-1A) has been declared at end of mission. But, I think I will retain AO-85 in the TLE distribution for a while just in case there are some last comments from our friend. (Remember AO-7?)

[ANS thanks Ray Hoad, WA5QGD, AMSAT Orbital Elements Manager, for the above information]

Free Digital Copy of "Getting Started with Amateur Satellites" Available for New or Renewing Members

While HuskySat-1 completes it's scientific mission, check out the best resource for learning how to work through linear transponder satellites (and other types of amateur satellites). For a limited time, AMSAT is making the "Getting Started With Amateur Satellites" book available as a download with any paid new or renewal membership purchased via the AMSAT Store. This offer is only available with purchases completed online, and for only a limited time. A perennial favorite, Getting Started is updated every year with the latest amateur satellite information, and is the premier primer of satellite operation. The book is presented in PDF format, in full color, and covers all aspects of making your first contacts on a ham radio satellite.

Please take advantage of this offer today by visiting the AMSAT store at https://www.amsat.org/shop/ and selecting any membership option. While there, check out AMSAT's other items, including the M2 LEOpack antenna system, Arrow antennas, AMSAT shirts, and other swag. Be sure to view your cart before going to checkout. If you add a membership and then go directly to checkout, you'll never see an option to add your free gift.

If you have trouble selecting your free gift, please see this YouTube video to see the steps necessary. https://youtu.be/oRqk5Am-UzE

[ANS thanks the AMSAT Office for the above information]

ARISS Radio Telebridge Stalwart Gerald Klatzko, ZS6BTD, SK

When the International Space Station (ISS) orbit is not favorable for a direct Amateur Radio on the International Space Station (ARISS) contact with a particular school or location scheduled to speak with an astronaut, ARISS radio telebridge stations bridge the gap. Gerald Klatzko, ZS6BTD, of Parklands, South Africa, one of the “regulars” during the earlier years of the ARISS program, died on February 1 at age 95.

Klatzko served as an ARISS radio telebridge station in South Africa for many years until he retired. ARISS telebridge stations establish the direct ham radio link and feed two-way audio into a telebridge line for delivery to the contact site. John Sygo, ZS6JON, described Klatzko as “always bright and cheerful and a great operator,” who made major contributions to the amateur service.

“He was one of the first to experiment with slow-scan television,”

Sygo said. “For many years, he assisted NASA to link astronauts with their families using amateur radio links from Mir, the Space Shuttle, and the International Space Station. For over 2 decades he was the co-producer and presenter of Amateur Radio Mirror International.”

[ANS thanks ARRL for the above information]

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Need new satellite antennas? Purchase Arrows, Alaskan Arrows, and M2 LEO-Packs from the AMSAT Store. When you purchase through AMSAT, a portion of the proceeds goes towards Keeping Amateur Radio in Space.
https://amsat.org/product-category/hardware/

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Upcoming ARISS Contacts

ARISS lets students worldwide experience the excitement of talking directly with crew members of the International Space Station. A contact is scheduled with the Kittredge Magnet School, Atlanta, GA, direct via KQ4KMS. The ISS callsign is presently scheduled to be NA1SS, and the scheduled astronaut is Drew Morgan, KI5AAA. The contact is go for: Monday, 2020-02-24 at 18:23:55 UTC (31 degrees elevation).

A contact is also scheduled with the Celia Hays Elementary School, Rockwall, Texas, direct via W5SO. The ISS callsign is presently scheduled to be NA1SS, and the scheduled astronaut is Drew Morgan, KI5AAA. The contact is go for: Tuesday, 2020-02-25 at 17:35:18 UTC (31 degrees)

Watch for live stream at https://live.myvrspot.com/st?cid=NWM5NW

The ARISS webpage is at https://www.ariss.org/

Note that all times are approximate. It is recommended that you do your own orbital prediction or start listening about 10 minutes before the listed time.

[ANS thanks Charlie Sufana, AJ9N, of the ARISS operation team for the above information]

Hamfests, Conventions, Maker Faires, and Other Events

Want to see AMSAT in action or learn more about amateur radio in space? AMSAT Ambassadors provide presentations, demonstrate communicating through amateur satellites, and host information tables at club meetings, hamfests, conventions, maker faires, and other events.

Current schedule:
- March 6, 2020, Irving Hamfest, Irving, TX
- March 14-15, 2020, Science City on University of Arizona, Tuscon
- March 21, 2020, Midwinter Madness Hamfest, Buffalo, MN
- March 21, 2020, Scottsdale Amateur Radio Club Hamfest, Arizona
- March 28, 2020, Tucson Spring Hamfest, Tucson, AZ
- March 29, 2020, Vienna Wireless Winterfest, Annandale, VA
- May 2, 2020, Cochise Amateur Radio Assn Hamfest, Sierra Vista, AZ
- May 8-9, 2020 Prescott Hamfest, Prescott, AZ
- May 15-17, Hamvention, Xenia, OH
- June 12-13, 2020, Ham-Con, Plano, TX

A copy of the AMSAT hamfest brochure is available for download: AMSAT

Intro Brochure. This color brochure is designed to be printed double-sided and folded into a tri-fold handout.

To include your upcoming AMSAT presentation and/or demonstration, please send an email to ambassadors (at) amsat (dot) org.

[ANS thanks Robert Bankston, KE4AL, AMSAT Vice President - User Services, for the above information]

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there, but for updates check Twitter: https:/twitter.com/ad7db

Please submit any additions or corrections to ke4al (at) amsat.org

[ANS thanks Robert Bankston, KE4AL, AMSAT Vice President - User Services, for the above information]

Satellite Shorts From All Over

+ Students in the Husky Satellite Lab at the University of Washington have confirmed via their Facebook page that they have been commanding HuskySat-1 to various transmitter power levels and beacon intervals. Some amateurs tracking the bird, which carries a linear transponder to be activated later, had feared that the varying levels were a sign of problems. But this is part of the experimentation. The HuskySat team has been providing updates on their operations on their Facebook page at: https://www.facebook.com/pg/UWCubeSat/posts/ You should not need a Facebook account to view that link. (ANS thanks UW CubeSat Team for the above information)

+ NASA will accept applications for its next astronaut class March 2 to 31. Applicants must be U.S. citizens with a master's degree in a STEM field and two years of relevant professional experience. To sign up, see: https://www.nasa.gov/astronauts (ANS thanks NASA HQ News for the above information)

+ International Astronomical Youth Camp will take place in Spain from 12 July to 1 August 2020. The camp typically hosts around 65 participants, aged between 16-24 years old. The IAYC’s main aims are to promote knowledge on astronomy and related sciences in a unique, international atmosphere. Participants work on a research project of their own choosing over the course of the three weeks, culminating in a final report. See https://www.iayc.org/ for details. (ANS thanks Carys Herbert, IAYC Leaderteam, for the above information)

+ The ARISS-UK Team have announced that the Electromagnetic Field 2020 event is to host an ARISS contact during the weekend of July 23-26. The event will be held at Easton Manor Deer Park, near Ledbury in Herefordshire, UK. Information and event tickets available at: https://blog.emfcamp.org/2020/02/14/ticket-sales-dates/ (ANS thanks AMSAT-UK for the above information)

+ The maiden flight of the Long March-5B rocket carrying a trial version of China's new-generation manned spaceship is expected to take place in April, indicating the imminent start of construction of China's space station. The rocket, the prototype core capsule of the space station, and the experimental manned spaceship are undergoing tests at the Wenchang Space Launch Center on the coast of south China's island province of Hainan. https://bit.ly/2VcjXrO (ANS thanks Space Daily for the above information)

+ A new version of the game of "chicken" is evolving in outer space. According to Gen. John Raymond, the U.S. Space Force Chief, Russian "inspector" satellites are threatening the tenuous stand-off stability between adversarial spacefaring nations. Since Novemeber, the U.S. Space Command has been tracking a satellite known as Cosmos-2542 which ejected a smaller, nested satellite referred to as Cosmos-2543. The Russian satellites have been actively maneuvering near USA 245, a classified military imaging satellite. (ANS thanks Space Daily for the above information)

+ Amazon has patented a mechanism for throwing satellites into space with a multi-drone-guided whip, mounted on a boat. See details at: https://bit.ly/37KWPmL Note, though, that Amazon (and other tech companies) have a history of patenting things that they'll never actually build, such as Amazon's underwater fulfillment centers: https://bit.ly/2Tf7DV9 Has April Fool come early? (ANS thanks The Orbital Index for the above information)

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73 and Remember to help keep amateur radio in space,
This week's ANS Editor,

K0JM at amsat dot org